

C__582 – The new generation of industrial standard shaft encoders for almost any application.

Already the standard industrial dimension shaft encoders (58 mm) by TR-Electronic offer a large number of features that provide an optimum solution for almost any application.

The sensor core of the 582 family can now be equipped with four different sampling types.

Glass pane samplings are indispensable for applications with high demands on precision and linearity. The standard CE version scans 15 bits in the single-turn part, the high-resolution CO version scans up to 18 bits. A linearity deviation of 0.01° enables you to implement even highly precise applications.

The magnetic scans are robust and condensation proof. CM provides a single-turn resolution of up to 13 bit at a linearity of 0.5° and the "new" family member CP provides a single-turn resolution of 16 bit at a linearity of 0.1°. This makes high-resolution absolute encoders possible even without optics.

Several variants are available for incremental systems: Up to 10,000 (IE) or 65,568 (IO) pulses per revolution can be generated visually. The rugged IP scan delivers 10,000 pulses even without a glass if applications have rougher ambient conditions.

All three scans have a version that allows the user to software-control the output resolution. The programmable incremental rotary transducers solve a logistical task: One component – all resolutions.

The new 58 mm encoder generation by TR-Electronic combines efficient design with state-of-the-art features.

The encoders with a physical size of 58 mm meet the current mechanical market requirements: TR offers metric geometries (servo flange, clamping flange) and inch-based geometries already in the standard range. Shaft diameters range from 6 to 15 mm and 1/4" to 1/2". Devices are available with solid shafts, slip-on hollow shafts (blind-hole shafts) and continuous hollow shafts and thus are suitable for various drive configurations. All new C__582's are UL listed for the overseas market.

Naturally, TR-Electronic supplies the absolute encoders with all standard industrial interfaces. SSI and analogue measurements are an effective way to record angles and positions for small and simple automation tasks. Traditional field buses such as Profibus, CANopen, DeviceNet and even Interbus-S ensure compatibility with already installed systems. The new generation of absolute encoders consistently supports modern Industrial Ethernet variants, such as Profinet, EtherCAT, Ethernet/P, Powerlink and Sercos. Depending on the bus system, further options are integrated according to the latest specifications. DriveClik and BISS are commonly found in motor feedback systems. Suitable variants for the C__58 exist if an additional encoder must be read in via a feedback interface outside the drive. IO-Link absolute encoders are now available for less dynamic processes.

Different connection systems are available for different interfaces. Direct interfaces are usually bonded with M23 or M12 connectors, which are either mounted on the side of the pipe or on the back cover (only for solid shaft and blind-hole shaft). A custom length cable outlet with open ends or pigtail is available too. The rugged M12 connectors have

proven to be reliable for Industrial Ethernet and field buses. Also Industrial Ethernet connections can be placed on the side or on the back. This results in very short solutions or in solutions where the cross section, as seen from the shaft, is never greater than the 58 mm diameter.

Size 58 shaft encoders are available as redundant double shaft encoders for applications with increased availability requirements. The entire encoder system (central single-turn sampling, multi-turn sampling, evaluation electronics, power supply and interface) exists in duplicate. There are also redundant incremental rotary transducers. Separate reliability characteristics (MTTFd...) apply to each of the two channels. You thus can integrate your own reliability calculations.

The C__582 encoder platform offers several special solutions that most likely are provided by TR only.

Of particular interest are shaft encoders with double interfaces and additional interfaces. Real-time-capable control environments often require to locally evaluate the current encoder position as an SSI or incremental signal and use such as control or auxiliary signals, e.g. as position or speed feedback for a drive controller. That's why TR-Electronic provides an option for many of the fieldbuses and Industrial Ethernet interfaces to output an additional SSI or incremental channel directly at the encoder.

Even special applications such as the combination of two Industrial Ethernet interfaces are possible. Applications include classic retrofits or preparations. A new encoder can simultaneously supply the existing system and an added controller instead of mechanically integrating a second encoder.

Heavy-duty versions are available for rough environmental conditions. Suitable collar bearings can be used to absorb high shaft loads created by belt or chain drives. ATEX variants can be used in explosion protection zones 2/22 – with the same housing dimensions. TR-Electronic offers the same technology in a stainless steel housing (C__84 series) for aggressive environments. The protective housing of the 115 series shields against mechanical impacts.

The 582 family of TR-Electronic realizes a multitude of possible solutions based on a standard modular system – perfectly adapted to the requirements of the customer's application.

<http://www.tr-electronic.com/s/S016830>

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Captions:



TR-Electronic_C_V582_axial.jpg

Absolute encoder C__582 with axial connector panel



TR-Electronic_C_S582_radial.jpg

Absolute encoder C__582 with radial connector panel and blind-hole shaft